



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

FILE
OFFICE OF
PREVENTION, PESTICIDES, AND
TOXIC SUBSTANCES

FEB 11 1999
SUSIE CHUN, CHEMIST
REGISTRATION ACTION BRANCH 1
HEALTH EFFECTS DIVISION (7509C)

MEMORANDUM

DATE: October 20, 1998

SUBJECT: Dietary Exposure Analysis for Difenoconazole in/on Wheat and Animal Commodities (2F4107), Import Bananas (5E4526), and Sweet Corn (98ID0040). Chemical#: 128847. DP Barcodes: D250090, D250397, and D250398.

FROM: Susie Chun, Chemist *Susie Chun*
Registration Action Branch 1
Health Effects Division (7509C)

THROUGH: Melba Morrow, D.V.M., Branch Senior Scientist *Melba Morrow*
Registration Action Branch 1
Health Effects Division (7509C)

TO: Dana Vogel, Chemist
Registration Action Branch 1
Health Effects Division (7509C)

Action Requested

Provide an estimate of the dietary exposure and associated risk for difenoconazole resulting from existing tolerances and proposed tolerance levels for import bananas (5E4526) and sweet corn (98ID0040).

The proposed tolerance levels of 0.2 ppm in/on bananas as a result of a Section 3 request (5E4526) and 0.1 ppm in/on sweet corn as a result of a Section 18 request (98ID0040) were used in this analysis. *Note: Existing time-limited tolerances for the wheat and animal commodities expire 12/31/98.*

Toxicological Endpoints

Acute

The acute analysis for difenoconazole used an acute NOAEL = 25 mg/kg/day based on post-implantation loss and resorption/doe and a significant decrease in fetal weight at 75 mg/kg/day (LOAEL) resulting in an acute reference dose (aRfD) of 0.25 mg/kg/day. The acute dietary risk assessment is required for the protection of the **Females 13+** subgroup population from acute exposure to difenoconazole. For the general population (including infants and children), a dose

and endpoint were not selected for this population group because there were no effects observed in oral toxicology studies including maternal toxicity in the developmental toxicity studies in rats and rabbits that are attributable to a single exposure [dose] (Memo, A. Kocialski and J. Rowland, 9/25/98).

Chronic

For the chronic analysis, the HIARC selected a NOAEL=0.96 mg/kg/day based on cumulative decreases in body weight gains at 500 ppm [24.12 mg/kg/day (LOAEL)]. This resulted in a chronic RfD of 0.01 mg/kg/day (Memo, A. Kocialski and J. Rowland, 9/25/98).

FQPA Recommendation

The HIARC, based on hazard assessment, recommends to the FQPA Safety Committee, that 10x factor for the protection of infants and children should be removed because:

- A) Developmental toxicity studies showed no increased sensitivity in fetuses as compared to maternal animals following *in utero* exposures in rats and rabbits;
- B) The two generation reproduction toxicity study in rats showed no increased susceptibility in pups when compared to adults; and
- C) There was no evidence of abnormalities in the development of fetal nervous system in the pre/post natal studies. Neither brain weight nor histopathology (perfused or nonperfused) of the nervous system was affected in the subchronic and chronic toxicity studies.
- D) The toxicology data base is complete and there are no data gaps.

This decision was confirmed by the FQPA Safety Factor Committee, which met on October 19, 1998.

Residue Information

Tolerances for difenoconazole (including time-limited tolerances) are published in 40 CFR §180.475. For the acute and chronic analysis, published, proposed new tolerance level residues, and 100% crop treated (%CT) were used.

Results

The Dietary Exposure Evaluation Model (DEEM™) analysis evaluated the individual food consumption as reported by respondents in the USDA 1989-91 Nationwide Continuing Surveys for Food Intake by Individuals (CSFII) and accumulated exposure to the chemical for each commodity. A summary of the residue information used in the acute and chronic analyses is attached (Attachment 1).

Acute Exposure Analysis

The acute analysis estimates the distribution of single-day exposures for the overall U.S. population and certain subgroups and accumulates exposure to the chemical for each commodity. Each analysis assumes uniform distribution of cymoxanil in the commodity supply.

Since the HIARC determined that the only subgroup population of interest was females (13+), no acute dietary analysis was performed for the U.S. General Population or Infants and Children. The acute exposure analysis for female (13+) subgroup was performed using tolerance level residues and 100 percent crop treated (Attachment 2).

Total from new and published tolerances at the 95th percentile are shown in Table 1.

Table 1. - Acute Dietary Exposure Results

Subgroups	Exposure (mg/kg/day)	% RfD
Females (13+/pregnant/not nursing)	0.000913	< 1
Females (13+/nursing)	0.001079	< 1
Females(13-19 yrs/not preg. or nursing)	0.000941	< 1
Females (20+ years/not preg. or nursing)	0.000804	< 1
Females (13-50 years)	0.000869	< 1

Chronic Analysis

The chronic DEEM™ used mean consumption (3 day average). The results are in Table 2.

Table 2. - Chronic Dietary Exposure Results

Subgroups	Exposure (mg/kg/day)	% RfD
U.S. Population (48 states)	0.000558	5.6
Non-hispanic other than black or white	0.000602	6.0
All infants (< 1 year)	0.000741	7.4
Nursing Infants (< 1 year old)	0.000274	2.7
Non-Nursing Infants (< 1 year old)	0.000938	9.4
Children (1-6 years old)	0.001368	13.7
Children (7-12 years old)	0.000878	8.8
Females (13+/nursing)	0.000504	5.0
Males (13-19 years)	0.000603	6.0

The complete chronic analysis is attached (Attachment 3).

Conclusions

The acute analysis for difenoconazole is a very conservative estimate of dietary exposure with all residues at tolerance level and 100 percent of the commodities assumed to be treated. All %RfDs from this analysis were below 1% for the subgroup, females 13+. The results of this analysis indicate that the acute dietary risk associated with the proposed uses of difenoconazole in/on wheat and animal commodities is below the Agency's level of concern.

The results of the chronic analysis indicate that the chronic dietary risk associated with the proposed uses of difenoconazole is below the Agency's level of concern.

Attachment 1: Residue File

Attachment 2: Acute DEEM™ analysis (S. Chun, 10/19/98)

Attachment 3: Chronic DEEM™ analysis (S. Chun, 10/19/98)

cc: S. Chun (RAB1); B. Steinwand (CEB1), 2F4107, 5E4526, 98ID0040
RDI: DRES Team (10/15/98)
S. Chun:804-F:CM#2:(703)305-2249:7509C:RAB1

Attachment 1 - Residue File

Food Code	Crop Grp	Food Name	RESIDUE (ppm)	RDF #	Adj. Factors #1	Comment #2
073	A	BANANAS-DRIED	000.200000		03, 900	01.000 5E4526, New
378	A	BANANAS-JUICE	000.200000		01.000	01.000 5E4526, New
072	A	BANANAS	000.200000		01.000	01.000 5E4526, New
094	A	PLANTAINS-RIPE	000.200000		01.000	01.000 5E4526, New
481	A	PLANTAINS-DRIED	000.200000		03, 900	01.000 5E4526, New
480	A	PLANTAINS-GREEN	000.200000		01.000	01.000 5E4526, New
265	O	BARLEY	000.100000		01.000	01.000 2E4051
237	O	CORN/POP	000.100000		01.000	01.000 \$18, 98ID0040, New
267	O	CORN GRAIN-BRAN	000.100000		01.000	01.000 \$18, 98ID0040, New
268	O	CORN GRAIN/SUGAR/HFCS	000.100000		01, 500	01.000 \$18, 98ID0040, New
266	O	CORN GRAIN-ENDOSPERM	000.100000		01.000	01.000 \$18, 98ID0040, New
238	O	CORN/SWEET	000.100000		01.000	01.000 \$18, 98ID0040, New
388	O	CORN GRAIN/SUGAR-MOLASSES	000.100000		01, 500	01.000 \$18, 98ID0040, New
289	O	CORN GRAIN-OIL	000.100000		01.000	01.000 \$18, 98ID0040, New
273	O	RYE-GERM	000.100000		01.000	01.000 2E4051
272	O	RYE-ROUGH	000.100000		01.000	01.000 2E4051
274	O	RYE-FLOUR	000.100000		01.000	01.000 2E4051
277	O	WHEAT-GERM	000.100000		01, 000	01.000 2F4107, TLT 12/31/98
278	O	WHEAT-BRAN	000.100000		01.000	01.000 2F4107, TLT 12/31/98
279	O	WHEAT-FLOUR	000.100000		01.000	01.000 2F4107, TLT 12/31/98
437	O	WHEAT-GERM OIL	000.100000		01.000	01.000 2F4107, TLT 12/31/98
276	O	WHEAT-ROUGH	000.100000		01, 000	01.000 2F4107, TLT 12/31/98
324	O	BEEF-FAT W/O BONES	000.050000		01.000	01.000 2F4107, TLT 12/31/98
325	O	BEEF-KIDNEY	000.050000		01.000	01.000 2F4107, TLT 12/31/98
326	O	BEEF-LIVER	000.050000		01.000	01.000 2F4107, TLT 12/31/98
327	O	BEEF-LEAN (FAT/FREE) W/O BONES	000.050000		01, 000	01.000 2F4107, TLT 12/31/98
322	O	BEEF-OTHER ORGAN MEATS	000.050000		01.000	01.000 2F4107, TLT 12/31/98
323	O	BEEF-DRIED	000.050000		01, 920	01.000 2F4107, TLT 12/31/98
321	O	BEEF-MEAT BYPRODUCTS	000.050000		01.000	01.000 2F4107, TLT 12/31/98
332	O	GOAT-LIVER	000.050000		01, 000	01.000 2F4107, TLT 12/31/98
329	O	GOAT-OTHER ORGAN MEATS	000.050000		01.000	01.000 2F4107, TLT 12/31/98
333	O	GOAT-LEAN (FAT/FREE) W/O BONE	000.050000		01.000	01.000 2F4107, TLT 12/31/98
331	O	GOAT-KIDNEY	000.050000		01.000	01.000 2F4107, TLT 12/31/98
328	O	GOAT-MEAT BYPRODUCTS	000.050000		01, 000	01.000 2F4107, TLT 12/31/98
330	O	GOAT-FAT W/O BONE	000.050000		01.000	01.000 2F4107, TLT 12/31/98

334	U	HORSEMEAT	(FAT FREE)	W/O BONE	000.050000	01.000 01.000 2F4107,	TLT 12/31/98
347	U	PORK-LEAN	(FAT FREE)	W/O BONE	000.050000	01.000 01.000 2F4107,	TLT 12/31/98
346	U	PORK-LIVER			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
345	U	PORK-KIDNEY			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
344	U	PORK-FAT W/O BONE			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
343	U	PORK-- OTHER ORGAN MEATS			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
342	U	PORK-MEAT BYPRODUCTS			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
335	U	RABBIT			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
338	U	SHEEP-FAT W/O BONE			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
337	U	SHEEP--OTHER ORGAN MEATS			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
336	U	SHEEP-MEAT BYPRODUCTS			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
339	U	SHEEP-KIDNEY			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
340	U	SHEEP-LIVER			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
341	U	SHEEP-LEAN (FAT FREE)W/O BONE			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
424	U	VEAL-FAT W/O BONES			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
425	U	VEAL-LEAN (FATFREE) W/O BONES			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
430	U	VEAL-MEAT BYPRODUCTS			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
426	U	VEAL-KIDNEY			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
427	U	VEAL-LIVER			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
428	U	VEAL--OTHER ORGAN MEATS			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
429	U	VEAL-DRIED			000.050000	01.920 01.000 2F4107,	TLT 12/31/98
368	V	CHICKEN-FAT W/O BONES			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
369	V	CHICKEN-LEAN/FATFREE W/O BONE			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
367	V	CHICKEN-GIBLETS (LIVER)			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
385	V	CHICKEN-GIBLETS (EXCL. LIVER)			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
366	V	CHICKEN-BYPRODUCTS			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
362	V	POULTRY-OTHER-FAT W/O BONES			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
360	V	POULTRY-OTHER-LEAN (FAT FREE)			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
361	V	POULTRY-OTHER-GIBLETS (LIVER)			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
357	V	TURKEY--FAT W/O BONES			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
356	V	TURKEY-GIBLETS (LIVER)			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
355	V	TURKEY-BYPRODUCTS			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
449	V	TURKEY--OTHER ORGAN MEATS			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
358	V	TURKEY-LEAN/FAT FREE W/O BONE			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
365	X	EGGS-YOLK ONLY			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
363	X	EGGS-WHOLE			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
364	X	EGGS-WHITE ONLY			000.050000	01.000 01.000 2F4107,	TLT 12/31/98
319	X	MILK-FAT SOLIDS			000.010000	01.000 01.000 2F4107,	TLT 12/31/98
398	X	MILK-BASED WATER			000.010000	01.000 01.000 2F4107,	TLT 12/31/98
320	X	MILK SUGAR (LACTOSE)			000.010000	01.000 01.000 2F4107,	TLT 12/31/98
318	X	MILK-NONFAT SOLIDS			000.010000	01.000 01.000 2F4107,	TLT 12/31/98

Attachment 2: Acute Exposure Analysis

U.S. Environmental Protection Agency Ver. 6.27
DEEM ACUTE analysis for DIFENOCONAZOLE (1989-92 data)
Residue file name: 128847.r91 Adjustment factor #2 NCT used.
Analysis Date: 10-19-1998/13:36:23 Residue file dated: 10-19-1998/13:33:14/8
Acute Reference Dose (aRfD) = 0.250000 mg/kg body-wt/day
Run Comment: J. Vogel, 98ID0040 (corn), 2F4107 (wheat & animal), 5E4526 (banana as)

Females (13+/preg/not psq)

Daily Exposure Analysis 1/
 (mg/kg body-weight/day)
 per Capita per User

Mean	0.000448	0.000448
Standard Deviation	0.000222	0.000222
Standard Error	0.000011	0.000011
Percent of aRFD	0.18	0.18

Percent of Person-Days that are User-Days =100.00%

Estimated percentile of user-days exceeding calculated exposure
in mg/kg bcdy-wt/day and corresponding percent of aRfD

Percentile	Exposure	% aRfD	Percentile	Exposure	% aRfD
90.00	0.000213	0.09	10.00	0.000768	0.31
80.00	0.000276	0.11	5.00	0.000913	0.37
70.00	0.000313	0.13	2.50	0.000976	0.39
60.00	0.000350	0.14	1.00	0.001182	0.47
50.00	0.000394	0.16	0.50	0.001279	0.51
40.00	0.000459	0.18	0.25	0.001327	0.53
30.00	0.000528	0.21	0.10	0.001400	0.56
20.00	0.000600	0.24			

Estimated percentile of per-capita days exceeding calculated exposure
in mg/kg body-wt/day and corresponding percent of aRFD

Percentile	Exposure	% aRfD	Percentile	Exposure	% aRfD
90.00	0.000213	0.09	10.00	0.000768	0.31
80.00	0.000276	0.11	5.00	0.000913	0.37
70.00	0.000313	0.13	2.50	0.000976	0.39
60.00	0.000350	0.14	1.00	0.001182	0.47
50.00	0.000394	0.16	0.50	0.001279	0.51
40.00	0.000459	0.18	0.25	0.001327	0.53
30.00	0.000528	0.21	0.10	0.001400	0.56
20.00	0.000600	0.24			

1/ Analysis based on all three-day participant records in CSFII 1989-92 survey.

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Residue file name: 128847.r91 Adjustment factor #2 NCT used.
Analysis Date: 10-19-1998/13:36:23 Residue file dated: 10-19-1998/13:33:14/8
Acute Reference Dose (aRfD) = 0.250000 mg/kg body-wt/day

Females (13+/nursing)	Daily Exposure Analysis (mg/kg body-weight/day)	
	per Capita	per User
Mean	0.000504	0.000504
Standard Deviation	0.000290	0.000290
Standard Error	0.000020	0.000020
Percent of aRfD	0.20	0.20

Percent of Person-Days that are User-Days =100.00%

Estimated percentile of user-days exceeding calculated exposure
in mg/kg body-wt/day and corresponding percent of aRFd

Percentile	Exposure	% aRfD	Percentile	Exposure	% aRfD
90.00	0.000169	0.07	10.00	0.000947	0.38
80.00	0.000246	0.10	5.00	0.001079	0.43
70.00	0.000310	0.12	2.50	0.001178	0.47
60.00	0.000386	0.15	1.00	0.001303	0.52
50.00	0.000443	0.18	0.50	0.001389	0.56
40.00	0.000529	0.21	0.25	0.001432	0.57
30.00	0.000623	0.25	0.10	0.001458	0.58
20.00	0.000752	0.30			

Estimated percentile of per-capita days exceeding calculated exposure
in mg/kg body-wt/day and corresponding percent of aRfD

Percentile	Exposure	% aRfD	Percentile	Exposure	% aRfD
90.00	0.000169	0.07	10.00	0.000947	0.38
80.00	0.000246	0.10	5.00	0.001079	0.43
70.00	0.000310	0.12	2.50	0.001178	0.47
60.00	0.000386	0.15	1.00	0.001303	0.52
50.00	0.000443	0.18	0.50	0.001389	0.56
40.00	0.000529	0.21	0.25	0.001432	0.57
30.00	0.000623	0.25	0.10	0.001458	0.58
20.00	0.000752	0.30			

U.S. Environmental Protection Agency Ver. 6.27
DEEM ACUTE analysis for DIFENOCONAZOLE (1989-92 data)
Residue file name: 128847.r91 Adjustment factor #2 NOT used.
Analysis Date: 10-19-1998/13:36:23 Residue file dated: 10-19-1998/13:33:14/8
Acute Reference Dose (aRfD) = 0.250000 mg/kg body-wt/day

Females (13-19 yrs/np/nn)	Daily Exposure Analysis (mg/kg body-weight/day)	
	per Capita	per User
Mean	0.000482	0.000483
Standard Deviation	0.000259	0.000258
Standard Error	0.000006	0.000006
Percent of aRfD	0.19	0.19

Percent of Person-Days that are User-Days = 99.80%

Estimated percentile of user-days exceeding calculated exposure
in mg/kg body-wt/day and corresponding percent of aRFD

Percentile	Exposure	% aRfD	Percentile	Exposure	% aRfD
90.00	0.000209	0.08	10.00	0.000833	0.33
80.00	0.000266	0.11	5.00	0.000941	0.38
70.00	0.000320	0.13	2.50	0.001071	0.43
60.00	0.000384	0.15	1.00	0.001240	0.50
50.00	0.000441	0.18	0.50	0.001582	0.63
40.00	0.000494	0.20	0.25	0.001762	0.70
30.00	0.000566	0.23	0.10	0.001862	0.74
20.00	0.000681	0.27			

Estimated percentile of per-capita days exceeding calculated exposure
in mg/kg body-wt/day and corresponding percent of aRfD

Percentile	Exposure	% aRfD	Percentile	Exposure	% aRfD
90.00	0.000205	0.08	10.00	0.000833	0.33
80.00	0.000265	0.11	5.00	0.000941	0.38
70.00	0.000319	0.13	2.50	0.001071	0.43
60.00	0.000383	0.15	1.00	0.001240	0.50
50.00	0.000440	0.18	0.50	0.001581	0.63
40.00	0.000494	0.20	0.25	0.001762	0.70
30.00	0.000565	0.23	0.10	0.001862	0.74
20.00	0.000680	0.27			

U.S. Environmental Protection Agency
 DEEM ACUTE analysis for DIFENOCONAZOLE
 Residue file name: 128847.r91
 Analysis Date: 10-19-1998/13:36:23 Residue file dated: 10-19-1998/13:33:14/8
 Acute Reference Dose (aRfD) = 0.250000 mg/kg body-wt/day
 =====

Females (20+ years/np/nn)	Daily Exposure Analysis (mg/kg bddy-weight/day)	
	per Capita	per User
Mean	0.000376	0.000377
Standard Deviation	0.000226	0.000225
Standard Error	0.000002	0.000002
Percent of aRfD	0.15	0.15

Percent of Person-Days that are User-Days = 99.75%

Estimated percentile of user-days exceeding calculated exposure
in mg/kg body-wt/day and corresponding percent of aRfD

Percentile	Exposure	% aRfD	Percentile	Exposure	% aRfD
90.00	0.000145	0.06	10.00	0.000676	0.27
80.00	0.000199	0.08	5.00	0.000804	0.32
70.00	0.000242	0.10	2.50	0.000943	0.38
60.00	0.000286	0.11	1.00	0.001129	0.45
50.00	0.000331	0.13	0.50	0.001318	0.53
40.00	0.000381	0.15	0.25	0.001497	0.60
30.00	0.000445	0.18	0.10	0.001682	0.67
20.00	0.000533	0.21			

Estimated percentile of per-capita days exceeding calculated exposure
in mg/kg body-wt/day and corresponding percent of aRfD

Percentile	Exposure	% aRfD	Percentile	Exposure	% aRfD
90.00	0.000142	0.06	10.00	0.000676	0.27
80.00	0.000198	0.08	5.00	0.000804	0.32
70.00	0.000241	0.10	2.50	0.000942	0.38
60.00	0.000285	0.11	1.00	0.001129	0.45
50.00	0.000330	0.13	0.50	0.001318	0.53
40.00	0.000381	0.15	0.25	0.001496	0.60
30.00	0.000445	0.18	0.10	0.001682	0.67
20.00	0.000532	0.21			

U.S. Environmental Protection Agency
DEEM ACUTE analysis for DIFENOCONAZOLE
Residue file name: 128847.r91
Analysis Date: 10-19-1998/13:36:24 Residue file dated: 10-19-1998/13:33:14/8
Acute Reference Dose (aRfD) = 0.250000 mg/kg body-wt/day
=====

Females (13-50 years)	Daily Exposure Analysis (mg/kg body-weight/day)	
	per Capita	per User
Mean	0.000403	0.000404
Standard Deviation	0.000238	0.000238
Standard Error	0.000002	0.000002
Percent of aRfD	0.16	0.16

Percent of Person-Days that are User-Days = 99.76%

Estimated percentile of user-days exceeding calculated exposure
in mg/kg body-wt/day and corresponding percent of aRfD

Percentile	Exposure	% aRfD	Percentile	Exposure	% aRfD
90.00	0.000155	0.06	10.00	0.000721	0.29
80.00	0.000215	0.09	5.00	0.000869	0.35
70.00	0.000261	0.10	2.50	0.001010	0.40
60.00	0.000307	0.12	1.00	0.001188	0.48
50.00	0.000357	0.14	0.50	0.001412	0.56
40.00	0.000412	0.16	0.25	0.001562	0.62
30.00	0.000478	0.19	0.10	0.001715	0.69
20.00	0.000570	0.23			

Estimated percentile of per-capita days exceeding calculated exposure
in mg/kg body-wt/day and corresponding percent of aRfD

Percentile	Exposure	% aRfD	Percentile	Exposure	% aRfD
90.00	0.000152	0.06	10.00	0.000721	0.29
80.00	0.000214	0.09	5.00	0.000869	0.35
70.00	0.000260	0.10	2.50	0.001010	0.40
60.00	0.000307	0.12	1.00	0.001188	0.48
50.00	0.000356	0.14	0.50	0.001412	0.56
40.00	0.000411	0.16	0.25	0.001561	0.62
30.00	0.000478	0.19	0.10	0.001715	0.69
20.00	0.000569	0.23			

U.S. Environmental Protection Agency
 OEMM ACUTE analysis for DIFENOCONAZOLE Ver. 6.27
 Residue file name: 128847.r91 (1989-92 data)
 Analysis Date: 10-19-1998/13:36:24 Adjustment factor #2 NOT used.
 Acute Reference Dose (aRfD) = 0.250000 mg/kg body-wt/day
 Run Comment: C. Vogel, 98ID0040 (corn), 2F4107 (wheat & animal), 5E4526 (banan
 as)

Summary calculations:

	95th Percentile Exposure	% aRfD	99th Percentile Exposure	% aRfD	99.9 Percentile Exposure	% aRfD
Females (13+/preg/not nsg):						
	0.000913	0.37	0.001182	0.47	0.001400	0.56
Females (13+/nursing):						
	0.001079	0.43	0.001303	0.52	0.001458	0.58
Females (13-18 yrs/np/nn):						
	0.000941	0.38	0.001240	0.50	0.001862	0.74
Females (20+ years/np/nn):						
	0.000804	0.32	0.001129	0.45	0.001682	0.67
Females (13-50 years):						
	0.000869	0.35	0.001188	0.48	0.001715	0.69

Attachment 3: Chronic Exposure Analysis

U.S. Environmental Protection Agency
DEEM89N CHRONIC analysis for DIFENOCONAZOLE Ver. 6.12
Residue file name: 128847 (1989-92 data)
Analysis Date 10-19-1998 Adjustment factor #2 NOT used.
Residue file dated: 10-19-1998/13:33:14/8
Reference dose (Rfd, CHRONIC) = 0.010000 mg/kg body-wt/day
COMMENT 1: E. Vogel, 98ID0040 (corn), 2F4107 (wheat & animal), 5E4526 (bananas)

Total exposure by population subgroup

Population Subgroup	Total Exposure	
	mg/kg body wt/day	Percent of Rfd
J.S. Pop - 48 states - all seasons	0.000558	5.6%
U.S. Population - spring season	0.000545	5.5%
U.S. Population - summer season	0.000563	5.6%
U.S. Population - autumn season	0.000566	5.7%
U.S. Population - winter season	0.000555	5.6%
Northeast region	0.000548	5.5%
Midwest region	0.000573	5.7%
Southern region	0.000562	5.6%
Western region	0.000541	5.4%
Pacific Region	0.000532	5.3%
Hispanics	0.000570	5.7%
Non-hispanic whites	0.000555	5.5%
Non-hispanic blacks	0.000559	5.6%
Non-hispanic other than black or white	0.000602	6.0%
All infants (<1 year)	0.000741	7.4%
Nursing infants (<1 year)	0.000274	2.7%
Non-nursing infants (<1 year)	0.000938	9.4%
Children (1-6 years)	0.001368	13.7%
Children (7-12 years)	0.000878	8.8%
Females (13-19 yrs/not preg. or nursing)	0.000483	4.8%
Females (20+ years/not preg. or nursing)	0.000380	3.8%
Females (13-50 years)	0.000404	4.0%
Females (13+/pregnant/not nursing)	0.000448	4.5%
Females (13+/nursing)	0.000504	5.0%
Males (13-19 years)	0.000603	6.0%
Males (20+ years)	0.000430	4.3%
Seniors (55+)	0.000383	3.8%



13544

R120681

Chemical: Difenoconazole

PC Code:
128847

HED File Code: 11100 Other Chemistry Documents

Memo Date: 10/20/1998

File ID: 00000000

Accession #: 412-06-0013

HED Records Reference Center
2/27/2006